

Amendments to the Claims:

Please substitute the following clean copy text for the pending claims of the same number.

Please amend claims 1, 6, 10, and 11.

Please cancel claims 2, 16, and 17, without prejudice.

1. (Currently Amended) A method, executing on hardware, for processing sound signals for a surround left channel (S_L) and a surround right channel (S_R), comprising the steps of:

generating a continually varying delay between the signals of the surround right channel (S_R) and the surround left channel (S_L), wherein the continually varying delay decorrelates the surround left channel (S_L) and the surround right channel (S_R), and wherein the continually varying delay varies over time so as not to have a fixed value;

processing the signals of the surround left channel (S_L), wherein processing of the signals of the surround left channel (S_L) includes the step of introducing a first delay to the signals of the surround left channel (S_L); and

processing the signals of the surround right channel (S_R), wherein processing of the signals of the surround right channel (S_R) includes the step of introducing a second delay to the signals of the surround right channel (S_R).

wherein the first delay and the second delay provide the continually varying delay between the signals of the surround right channel (S_R) and the surround left channel (S_L).

wherein a continually varying delay between the resulting signals of the surround right (S_R) and surround left channels (S_L) is generated.

2. (Cancelled)

3. (Withdrawn) A method according to claim 1, wherein the left surround channel (S_L) and the right surround channel (S_R) are each split into a number of frequency bands ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$), and each frequency band ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$) of each surround channel (S_R, S_L) is delayed with respect to other frequency bands ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$) of the same channel (S_R, S_L), and also with respect to a corresponding frequency band ($B'_1, B'_2, \dots, B'_n, B_1, B_2, \dots, B_n$) of the other channel (S_L, S_R).

4. (Previously Presented) A method according to claim 1, wherein the surround left channel (S_L) and the surround right channel (S_R) are mixed with other sound channels (F_R, F_L, C) and forwarded to a number of loudspeakers ($L1, L2, L3, R1, R2, R3$) in such a way as to yield sound output signals (A_1, A_2, A_3, A_4) with a directional arrangement of dipole loudspeaker lobes ($DL_1, DL_2, DL_3, DL_4, DL_5, DL_6$).

5. (Previously Presented) A method according to claim 1, wherein the delayed surround channels (S_L, S_R) are stored together with associated sound (F_R, F_L, C, B) and/or video channels in a storage media for later use.

6. (Currently Amended) A delay management unit (1) hardware device for processing a surround right channel (S_R) and a surround left channel (S_L) of a stereo surround channel (S), wherein the delay management unit (1) comprises:

with a number of variable delay units ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$) to provide a continually varying delay between the signals of the surround right channel (S_R) and the surround left channel (S_L), wherein the continually varying delay decorrelates the surround left channel (S_L) and the surround right channel (S_R), and wherein continually varying delay varies over time so as not to have a fixed value.

7. (Original) A delay management unit (1) according to claim 6, comprising variable delay units ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$) in each surround channel (S_L, S_R) and a control signal generator (6) with control signal outputs ($C_1, C_2, \dots, C_n, C'_1, C'_2, \dots, C'_n$)

connected to the variable delay units ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$) in such a way as to yield the continually varying delay.

8. (Withdrawn) A delay management unit (1) according to claim 6, comprising:
- a frequency splitting arrangement for the left surround channel (S_L) and for the right surround channel (S_R) to split each channel into a number of frequency bands ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$);
 - variable delay units ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$) for the different frequency bands ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$) in the surround right channel (S_R) and the surround left channel (S_L); and
- a control signal generator (6) for generating control signals ($C_1, C_2, \dots, C_{n-1}, C'_1, C'_2, \dots, C'_{n-1}$) to control the variable delays ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$) in such a way as to delay each frequency band ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$) of each surround channel (S_L, S_R) with a continually varying delay with respect to other frequency bands ($B_1, B_2, \dots, B_n, B'_1, B'_2, \dots, B'_n$) of the same channel (S_L, S_R), and with respect to a corresponding frequency band ($B'_1, B'_2, \dots, B'_n, B_1, B_2, \dots, B_n$) of the other channel (S_R, S_L).

9. (Previously Presented) A delay management unit (1) according to claim 7, where the control signal generator (6) comprises a signal source (G) and a signal modifier arrangement (M_1, M_2, \dots, M_{n-1}) which together provide control inputs ($C_1, C_2, \dots, C_{n-1}, C'_1, C'_2, \dots, C'_n$) for the delay units ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$).

10. (Currently Amended) The delay management unit of claim 6, wherein the delay management unit is part of a sound processing system (2, 2'). ~~comprising a delay management unit (1) according to claim 6.~~

11. (Currently Amended) An acoustic system (3), said system comprising:
- a source of a number of distinct sound channels (F, S, C, B) including a surround left channel (S_L) and a surround right channel (S_R);

a sound processing system (2) according to claim 10 for processing the sound channels (F, S, C, B);

and a number of loudspeakers (L1, L2, L3, R1, R2, R3) for converting the processed sound channels (A₁, A₂, A₃, A₄) into audible sound[[:]] .

12. (Original) An acoustic system (3) according to claim 11, where the number of loudspeakers (L1, L2, L3, R1, R2, R3) are arranged to form an array and where the sound processing system (2) comprises a mixing unit (4) for mixing sound input channels (F, S, C) to give sound output channels (A₁, A₂, A₃), and forwarding sound output channels (A₁, A₂, A₃, A₄) to the loudspeakers (L1, L2, L3, R1, R2, R3) in such a way as to yield a directional arrangement of dipole loudspeaker lobes (DL₁, DL₂, DL₃, DL₄, DL₅, DL₆) for the sound input channels (F, S, C, B).

13. (Previously Presented) A mixing unit (4) for a sound processing system (2) with a number of distinct sound channels (F, S, C) including a surround left channel (S_L) and a surround right channel (S_R) comprising:

- line inputs (100, 200, 300) for the sound channels (F, S, C);
- line outputs (101, 201, 301) for connection to loudspeakers (L1, L2, L3, R1, R2, R3);
- a means for mixing the sound channels (F, S, C) to give sound output channels (A₁, A₂, A₃) in such a way as to yield a directional arrangement of dipole loudspeaker lobes (DL₁, DL₂, DL₃, DL₄, DL₅, DL₆) and forwarding the sound output channels (A₁, A₂, A₃) to the line outputs (103, 203, 303); and
- a delay management unit (1) according to claim 6 to generate a continually varying delay between the surround right and surround left channels (S_R, S_L).

14. (Original) A mixing unit (4) according to claim 13, comprising a user-configurable delay arrangement (5) for delaying the signals of the different sound channels (F_R, F_L, S_R, S_L, C) with respect to each other in such a way as to direct dipole loudspeaker lobes (DL₁, DL₂, DL₃, DL₄, DL₅, DL₆) for at least some of the sound channels (F_R, F_L, S_R, S_L, C) by

choosing suitable delay scale values.

15. (Original) A studio system comprising a sound processing system (2') according to claim 10.

16. (Cancelled)

17. (Cancelled)